

# Work Order ID 60442

Wednesday, July 07, 2010 3:02:38 PM



Page 1

Item ID: DSI 9515-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Lug Upgrade

Start Date: 7/8/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 7/22/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan: *mf*

Date: *10-7-7*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI 9515	B								
100		0.00							
	DOCUMENT CONTROL								
DC	Memo	0.00							
Document Control	Photocopy bluefile & type labels per PPP DSI9515-011 CHG001								
									<i>10/07/8</i>
110		0.00							
	Pick Kit								
Packaging	Memo	0.00							
Packaging									
									<i>10-7-9 SP</i>
120		0.00							
	QC4- 100% Inspect kits for completeness								
QC	Memo	0.00							
Quality Control									
									<i>(X2)</i>

*8/10/21*

*8/10/21*

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 60442**

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Item ID: DSI 9515-011

Accept



Setup Start



Revision ID:

Stop



Item Name: Lug Upgrade

Start Date: 7/8/2010 Start Qty: 2.00



Cust Item ID:

Required Date: 7/22/2010 Req'd Qty: 2.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool # Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

130



Packaging

Packaging

0.00

Memo

0.00

Identify and pack for shipping as per PPP DSI9515-011  
Location: *Drop*

140



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

*Pc 1/17/12 12**10/07/22 7**MF**10-7-21*

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:			WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

**NOTE:** Date & initial all entries

# Picklist Print

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Page 1

Work Order ID: 60442

Parent Item: DSI 9515-011

Parent Item Name: Lug Upgrade



Start Date: 7/8/2010

Required Date: 7/22/2010

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP Rev:A new issue DD 10.04.21 verified by:EC  
as per revB DD 10.05.03 verified by:EC

IPP Rev:B

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4091-1 Mounting Lug		Manufactured	No			110	Each	3.0000	4	12			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST460			3						
					59239		3						
D3910-3 Crosstube Lug		Manufactured	No			110	Each	18.0000	4	72			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				st507			18						
					58549		18						
D3984 Rubber Extrusion, Crosstube		Manufactured	No			110	f	456.6893	8	3653.5144			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST408			456.6893						
					53707		456.6893						
(D3984-030) CUT (8) AT 3.00"													
AN4-14A Bolt		Purchased	No			110	Each	258.0000	16	4128			
				<u>Location</u>			<u>Loc Qty</u>			<u>Loc Code</u>			
				ST357			242						
					114752		242						
				ST358			16						
					113359		16						

842

572

8

8

measured  
8/16/12

10.7-98  
1360239  
10.7.205

10.7.9

16 4 feet  
10.7.9

162

10.7.9 2x

33

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)							
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector	
			Initial Chief Eng	Action Description Chief Eng	Sign & Date				

**NOTE:** Date & initial all entries

# Picklist Print

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Page 2

Work Order ID: 60442

Parent Item: DSI 9515-011

Parent Item Name: Lug Upgrade



Start Date: 7/8/2010

Required Date: 7/22/2010

Start Qty: 2.00

Required Qty: 2.00

NAS1149D0463J

Purchased

No

110

Each

4,111.000

32

64



Washer

## Location

## Loc Qty

## Loc Code

ST297

4025

115000

4025

ST298

86

114576

68

114883

18



10-7-95d

MS21042L4

Purchased

No

110

Each

4,410.000

16

32



Nut

## Location

## Loc Qty

## Loc Code

ST300

4398

113422

68

114523

28

114718

302

114784

2000

115108

2000

ST356

12

108145

12



10-7-95d (20)

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Shop Packet Print

Page 2

W/O:			WORK ORDER CHANGES					
DATE	STEP		PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



# DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D350-602 REV E (OR EARLIER REV.)  
AND INSTRUCTIONS FOR CONTINUOUS AIRWORTHINESS ICA-D350-602 REV. 0

REF. TCCA STC: SH93-97  
REF. FAA STC: SR01144NY  
REF. EASA STC: EASA.IM.R.S.01290

REFERENCE ONLY

## PURPOSE

Dart Heli-Utility-Pods D350-602-011 @ CHG 006 and D350-602-013/-014 @ CHG 002 have new attachment lugs.

## CHANGE

The D2230-1/-3 clamps are replaced with wider D4091-1/D3910-3 lugs. The abrasion strip is replaced with D3984-030 rubber extrusion. The D2462-1700 Neoprene Seal is replaced with D2461-1700 Neoprene 'D' Seal. The modified parts list for Installation Instruction D350-602 and Instructions for Continued Airworthiness ICA-D350-602 is shown on sheet 2 of this service instruction. Install the lugs as shown in Figure 1 & 2 of this service instruction. The pod should otherwise be installed per D350-602 and maintained per ICA-D350-602.

The weight and balance for Dart Heli-Utility-Pods D350-602-011 @ CHG 006 and D350-602-013/-014 @ CHG 002 (or later) are updated as follows:

## 5.0 WEIGHT AND BALANCE (D350-602 Rev. E)

## 25.6 WEIGHT AND BALANCE (ICA-D350-602 Rev. 0)

The following weight and balance information is for the Dart *Heli-Utility-Pod™*. The weight and balance of any parts that are removed from the aircraft to perform this installation or equipment installed/stowed in the pods are the responsibility of the installer.

Installation	Weight	LATERAL		LONGITUDINAL	
		Arm	Moment	Arm	Moment
D350-602-011 @ CHG 006	61.2 lb	±51.0 in	±3121 in-lb	135 in	8262 in-lb
Heli-Utility-Pod™ LH or RH	27.8 kg	±1.29 m	±35.9 m-kG	3.43 m	95.4 m-kG
D350-602-013 @ CHG 002	61.2 lb	-51.0 in	-3121 in-lb	135 in	6872 in-lb
Heli-Utility-Pod™ LH	27.8 kg	-1.29 m	-35.9 m-kG	3.43 m	79.2 m-kG
D350-602-014 @ CHG 002	61.2 lb	+51.0 in	+3121 in-lb	135 in	6872 in-lb
Heli-Utility-Pod™ RH	27.8 kg	+1.29 m	+35.9 m-kG	3.43 m	79.2 m-kG

## LUG UPGRADE KIT

The Dart DSI-9515-011 kit is available to upgrade D350-602-XXX Heli-Utility-Pods made to earlier change numbers with D4091-1 / D3910-3 lugs. The lugs should be installed per Figure 1 & 2 of this service instruction.

QTY	Part Number	Description
-011		
X	DSI-9515-011	LUG UPGRADE KIT
4	D4091-1	LUG
4	D3910-3	LUG
8	D3984-030	RUBBER EXTRUSION
16	AN4-14A	BOLT
32	AN960JD416	WASHER (OR NAS1149DO463J)
16	MS21042L4	NUT (OR MS21042-4)

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-O-01

APPROVED

BY:   
D. SHEPHERD (DE # 02)

DATE: 10.04.23  
CERT. NO.: SH93-97  
ISSUE NO.: 4

B	NAS1149DO463J WAS xDN432J & CHG QTY	CP	10.04.23
A	NEW ISSUE	CP	10.03.30
REV.	DESCRIPTION	BY	DATE
DESIGN	92	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	92		
CHECKED	92	DRAWING NO.	REV. B
MFG. APPR.	N/A	DSI 9515	SHEET 1 OF 4
APPROVED	N/A	TITLE	SCALE
DE APPR.	H	LUG MODIFICATION	NTS
DATE	10.04.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD <small>THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

6.0 PART LIST (D350-602 Rev. E)  
25.7 PARTS LIST (ICA-D350-602 Rev. 0)

Qty D350-602 -011	Qty D350-602 -013	Qty D350-602 -014	Qty DSI9052 -013	Part Number	Description
X				D350-602-011	HELI-UTILITY-POD™ (FITS BOTH LH/ RH)
	X			D350-602-013	HELI-UTILITY-POD™, LH
		X		D350-602-014	HELI-UTILITY-POD™, RH
			X	DSI9052-013	QUICK RELEASE KIT
1				D2694	POD ASSEMBLY (LH OR RH)
	1			D3322-041	POD ASSEMBLY (LH)
		1		D3322-042	POD ASSEMBLY (RH)
1	1	1		*D2202-1	POD LID
1				*D2202-3	POD BASE
	1	1		*D2202-5	POD BASE
5	5	5		*D2204-9	LATCH
1	1	1		*D2429-041	SPRING CLIP ASSEMBLY
1	1	1		*D2461-1700	NEOPRENE 'D' SEAL
5	5	5		*D2528-1	BACKER PLATE
4	4	4		*D2528-3	BACKER PLATE
1	1	1		*D2569	HINGE
1	1	1		*D3007-041	PROP ASSEMBLY
1	1	1		** D2012-107	CLEVIS
2	2	2		** D2022-101	SPACER
1	1	1		** D2705	SUPPORT BRACKET
1	1	1		** D3007-1	STRUT
1	1	1		** D3015-3	LOCKNUT
1	1	1		** AN4-10A	BOLT
1	1	1		** AN960JD416	WASHER
1	1	1		** MS21042L4	NUT (OR MS21042-4)
1	1	1		** SL69-BS	BALL STUD
1	1	1		** AN960JD516	WASHER
19	19	19		AN4-5A	BOLT
1	1	1		AN4-6A	BOLT
2	2	2		AN526C632R7	SCREW
21	21	21		AN960JD416	WASHER
2	2	2		AN960JD6	WASHER
2	2	2		MS21042L06	NUT (OR MS21042-06)
20	20	20		MS21042L4	NUT (OR MS21042-4)
4	4	4		D4091-1	LUG
4	4	4		D3910-3	LUG
1	1	1		D2258-160	LABEL
1	1	1		D2324-1	STRUT ASSEMBLY
2	2	2		D2523	MOUNTING BRACKET
2	2	2		D2524	SIDE PLATE
1	1	1		D3495-1	PLACARD
8	8	8		D3984-030	RUBBER EXTRUSION
4	4	4		AN3-7A	BOLT
8	8	8		AN3-15A	BOLT
1	1	1		AN4-12A	BOLT
16	16	16		AN4-14A	BOLT
4	4	4		AN4-16A	BOLT
24	24	24		AN960JD10	WASHER
42	42	42		AN960JD416	WASHER
12	12	12		MS21042L3	NUT (OR MS21042-3)
21	21	21		MS21042L4	NUT (OR MS21042-4)
			1	BLRS-010	QUICK RELEASE PIN (1" GRIP)
			3	BLRS-020	QUICK RELEASE PIN (1.5" GRIP)

\* INCLUDED IN D2694 OR D3322-041/-042 POD ASSEMBLIES LISTED ABOVE

\*\* INCLUDED IN D3007-041 PROP ASSEMBLY LISTED ABOVE

CANADA  
DEPARTMENT OF TRANSPORT  
AIRCRAFT CERTIFICATION  
BRANCH  
DAO # 01-Q-01

APPROVED

BY: [Signature]  
D. SHEPHERD (DE # 02)

DATE: 10.04.23  
CERT. NO.: SH93-97  
ISSUE NO.: 4

DESIGN	<u>99</u>	<b>DART AEROSPACE LTD</b>	
DRAWN	<u>99</u>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<u>1</u>	DRAWING NO.	REV. B
MFG. APPR.	<u>N/A</u>	DSI 9515	SHEET 2 OF 4
APPROVED	<u>[Signature]</u>	TITLE	SCALE
DE APPR.	<u>[Signature]</u>	LUG MODIFICATION	NTS
DATE	10.04.23	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
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